

REMARKS

Claim 1 is amended herein. Upon entry of this amendment, claims 1-3 will be pending in this application.

Claims 1-3 are rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. (Office Action paragraph no.7)

The Examiner states that “applicant has not provided any showing of how the original disclosure provides a baffle plate which is capable of causing inert gas supplied along the upper face of the baffle plate to turn around ... without the gas injection section 30.”

The rejection is overcome by the amendment to claim 1, such that “the inert gas is supplied to the inside of a gas injection section and flows along the upper face of a baffle plate” This recitation is supported, for example, by page 17, line 12-18, which discloses that “The N₂ gas supplied to the inside of the gas injection section 30 via the communication pipe 33 flows to an outer peripheral edge along the upper face of the baffle plate 35 and turns around the peripheral edge”

Reconsideration of the rejection is therefore respectfully requested.

Claims 1-3 are rejected under 35 U.S.C. §103(a) as being unpatentable over CADY (previously cited) in view of U.S. Patent No. 6,190,732 to OMSTEAD et al. (Office Action paragraph no. 9)

The rejection of claims 1-3 is respectfully traversed, and reconsideration of the rejection is requested.

Applicants had previously argued that Cady does not achieve the limitation of the last clause of claim 1. In paragraph no. 4 of the Office action, the Examiner responds that Cady **does** achieve this limitation. The Examiner indicates that the combination with Omstead “would only enhance this effect.”

Applicants respectfully disagree. First of all, Cady, not having a baffle plate, does **not** achieve the limitation of the last clause of claim 1, and there is no such effect for the combination with Omstead to “enhance”. Applicant has also addressed this issue in the Declaration under 37 CFR 1.132 by Hiroki Edo, previously of record in this application.

Moreover, Applicants note that an object of Omstead's deflector plate 38 in Fig. 2 (prior art), is to achieve “uniform process gas flow” over the substrate (column 9, line 9-10). Accordingly, the deflector plate 38 should have dimensions to prevent gas flow 40 from feeding directly to the openings 24, located just under the gas feed opening 14 (see column 9, lines 1-16). Conversely, if the deflector plate 38 had larger dimensions, the uniform gas flow would not be achieved. Omstead's invention, like prior art Fig. 2, also has the object of providing uniform gas flow. Applicant submits that such “uniform gas flow” is clearly inconsistent with the last clause of claim 1, in which the flow is not uniform.

Omstead's deflector plate 38, as illustrated, is inconsistent with the structural limitations on the baffle plate in claim 1, since the baffle plate 35 of the present invention is of a dimension such

that the injection openings are located between the baffle plate and the wafer. Additionally, Omstead's deflector plate 38 is too small and is not properly positioned to achieve the limitation of the last clause of claim 1. The direct combination of Omstead's Fig. 2 and Cady would **not** achieve the limitation of claim 1. Omstead's deflector plate would have to be modified to resemble the baffle plate in the Figures of the present specification, and Cady's guides 12 would also have to be modified, for example, as in Figs. 4(A) to (C) of the present specification, to achieve the claimed effect. There is no suggestion in the references for such modifications.

In paragraph no. 4 of the Office action, the Examiner also notes the recitation of the specification of the present invention on page 17, lines 8-11, that the baffle plate "prevents the N₂ gas from directly flowing to the center of the supply port 32 ..." However, this is only a portion of the explanation of how the present invention achieves the limitation of claim 1. Applicant notes that structure of the present invention forces the gas to flow "around the outer edge of the baffle plate", as recited in claim 1, and therefore to pass by the outer peripheral injection openings of the bottom plate before it reaches the central holes. The injection opening structure of the bottom plate also contributes to achieving the limitation of the last clause of claim 1 (see specification, page 15, line 15, to page 16, line 2).

In paragraph no. 5 of the Office action, the Examiner states that "it is noted that the features upon which applicant relies ... are not recited in the rejected claims(s)." Applicant respectfully disagrees. The features relied on **are** relevant to the rejection. Applicant's remarks regarding the location of the injection openings pointed out a difference between the prior art structure and the

structure in the apparatus of the present invention, **which is used to achieve the method** of the present invention. That is, the discussed features **directly contribute to achieving the limitation** of the last clause in claim 1.

That is, although the present claims are method claims, the structure of the apparatus used is directly related to the method limitation at issue. It is apparent that none of Cady's fluid flow guides 12 (Cady, Figs. 3-7, 8A, 8B) has the structure of injection openings found in the exemplary gas injection sections in Figs. 4(A) to 4(C) of the present specification. Clearly, no combination of Omstead and Cady can have the injection opening structure shown in these examples in the present specification.

Applicants have explained that the combination of claim limitation of claim 1 of gas flow around the baffle plate, combined with an appropriate injection opening structure, leads to the limitation on gas flow in the last clause of claim 1. Applicant submits that no combination of Omstead's Fig. 2 with the any of Cady's fluid flow guides 12 leads to a structure that can achieve this limitation of claim 1.

Moreover, Applicants again note that the object of Omstead, "to achieve uniform process gas flow", is clearly contrary to the limitation of the last clause of claim 1. There is no suggestion or motivation in Omstead or Cady to devise an apparatus or process that would meet the limitation of claim 1.

Claims 1-3 are therefore not obvious over Cady and Omstead et al., taken separately or in combination.

U.S. Patent Application Serial No. 09/940,788
Amendment filed with RCE on November 9, 2005

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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